MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2016/2017

MVR 2043 – SIMULATION SCRIPTING

(All sections / Groups)

03 MARCH 2017
9.00 a.m. - 11.00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 4 pages with 10 Objective Questions and 5 Subjective Questions only.

2. Answer **ALL** questions. All objective questions carry equal marks and the distribution of the marks for each subjective questions are given.

3. Please print all your answers in the Answer Booklet provided.

OBJECTIVE QUESTIONS

Theory of Simulation

1. What is the **DEFINITION** of Simulation by Roger D. Smith (1998)?
   A. the process of designing a model of a real or imagined system and conducting experiments with that model
   B. an attempt to model a real-life or hypothetical situation on a computer
   C. a relation between state transition systems in computer science
   D. to copy various activities from "real life" in the form of a game

2. Which one of the followings can be properly summarized as the **PURPOSE** of Simulation?
   A. to enable real life games to be made as real looking as possible
   B. to allow the analysis of a system's capabilities, capacities, and behaviors without requiring the construction of or experimentation with the real system
   C. to allow entering a virtual environment to visualize life in an alternate reality
   D. to enable the creation of artificial intelligence

3. Which one of the followings is **NOT** considered advantages of using simulations based on the study made by Pegden, Shannon, and Sadowsku [1995]?
   A. Operating procedures can be explored without disrupting ongoing operations of the real system
   B. Time can be compressed or expanded to allow for a speed-up or slow-down of the situation under investigation
   C. A simulation study can help in understanding how individuals think the system operates instead of how the system actually operates
   D. Insight can be obtained about the interaction of variables

Simulation Programming

4. "The process collects the Render Meshes and Terrains of all Game Objects which are marked as Navigation Static, and then are processed to create a navigation mesh that approximates the walkable surfaces of the level."
The above description is clearly suited for which **Feature** in Unity?
   A. Creating Off-Mesh Links
   B. Using NavMesh Agent with Other Components
   C. Creating Terrain
   D. Building a NavMesh

Continued .....

5. NavMesh Agents requires a particular **Component** which is determined by a Vector3 typed variable and determines its end path. What is that component?

A. Auto Braking
B. Radius
C. SetDestination
D. Acceleration

6. **'Float currentSpeed'** is written in the script. What is the argument to check if the currentSpeed is **more than** 0?

A. Debug.Log(currentSpeed);
B. If (currentSpeed >= 0)
C. void CheckCurrentSpeed(){}
D. if (currentSpeed > 0.0f)

7. What does **CCU** stand for?

A. Concurrent Users
B. Cross Collaborative Units
C. Concurrent Units
D. Cross Collaborative Users

8. Which method enables a **Float** typed variable to a **String** typed component?

A. SetActive(true)
B. ToString();
C. print();
D. StartCoroutine();

9. What is the use of the **Network Transform** component in regards of a multiplayer application?

A. To provide an interface in the editor to control the configuration of the network
B. To control an object's network identity and makes the networking system aware
C. To sync multiplayer GameObject's transform across the network
D. To sync the position of a child object of an object with a NetworkTransform component

10. **State Synchronization** is required to synchronize variables across a network. Which one of these attributes below is the **CORRECT** way to attribute a network synchronized variables?

A. [SyncVars]
B. [VarSync]
C. [Sync Var]
D. [SyncVar]

Continued .....

SUBJECTIVE QUESTIONS

1. There are a number of simulation application were developed in the First Person View. Give **3 examples** of simulations that would **benefit** from a First Person View and **3 examples** of simulations that would benefit **without** it.

   (6 marks)

2. **Define** Analytics and **explain** the advantages of using Analytics in an application.

   (4 marks)

3. Explain the **procedure** in creating a Non Playable Character with the following behaviors:-
   a. Stand idly when not in contact with Main Character
   b. Follows when made contact with Main Character
   c. Stops in proximity of an Enemy Character
   d. Stays put when told to

   (10 marks)

4. Write the required **function** that does the following:-
   a. Create a Player Health that is synchronized through network
   b. Change a GameObject's color after 2 seconds
   c. Check if the player has moved the character through analytics
   d. Choose to render nothing but layer number 5

   (4 marks)

5. Explain the **purpose** for these functions in Unity3d:-
   a. using UnityEngine.UI;
   b. void InvokeRepeating()
   c. Off-Mesh Link
   d. void Awake()
   e. isKinematic – in RigidBody Component
   f. GetComponent<Animator>().SetInt("IntegerName",2);

   (6 marks)

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